Remarks

Applicants respectfully acknowledge and appreciate that claims 11-13 have been allowed, and thank the Examiner for due consideration of these claims.

Reconsideration of the remaining claims in the Application is respectfully requested.

Upon entry of the foregoing amendment, claims 1 and 14-26 are pending in the application, with claim 1 being the independent claim. Claims 1, 14, 19, and 20 are currently amended. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Based on the above amendment and the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Objections

Claim 20 was objected to because of the word "synch" recited in the claim. The claim has been amended to recite "sync". Applicants therefore respectfully request that the objection be withdrawn.

Rejections under 35 U.S.C. § 112

Claim 19 stands rejected under 35 U.S.C. § 112 because the claim recited "... respective video images *displayed* by a... video input/output module...", which is alleged to be inconsistent with the specification and drawings. Claim 20 stands rejected

under 35 U.S.C. § 112 as depending from rejected claim 19. Applicants respectfully traverse.

Applicants acknowledge that a video image is ultimately displayed to a human viewer via some device capable of visual display (e.g., a "display 116" or "monitor 114"), as indeed recited in the present application; however, Applicants submit that it is nonetheless conventionally understood in the art that a video image is also "displayed" via the electronics used to drive the "display 116" or "monitor 114", wherein in this instance the driving electronics are the recited "video input/output module" or modules. Therefore, Applicants assert that the rejected phrasing of claim 19 is, in fact, not indefinite under 35 U.S.C. § 112.

However, without prejudice to or disclaimer of the cancelled text within claim 19, Applicants have amended the claim consistent with the Examiner's suggestion to recite: "... respective video images *processed* by a respective first video input/output module...."

All of the stated grounds of rejection under 35 U.S.C. § 112 having been properly traversed, accommodated, or rendered moot, Applicants respectfully request that the rejection of claim 19, and also of claim 20 which depends from claim 19, be reconsidered and withdrawn.

Rejections under 35 U.S.C. § 103(a)

Claims 1, 14, and 19-26 stand rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent 6,646,645 to Simmonds et al. (hereinafter "Simmonds") in view of U.S. Patent Publication 2001/0022523 to Takami et al. (hereinafter "Takami"). Applicants respectfully traverse on three grounds.

1. "Synchronizing Means" Not Analogous

Regarding claim 1 of the present application, the Examiner has stated (page 3 of the Office Action): "As to claim 1, Simmonds teaches... means (a combination of "sync card 100" and "pc graphics subsystem 60") [fig. 3] for synchronizing the first and second image data...."

35 U.S.C. 112, sixth paragraph states that:

> "An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and *such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.*"

Applicants respectfully submit that the synchronization means disclosed by Simmonds, and referred to by the Examiner, are not analogous to the means ("structure, material, or acts") disclosed in the present application, and that therefore Simmonds does not disclose the means elements recited in claim 1 of the present application.

The means for synchronization taught by the present application includes a digital rate controller circuit (element 314 of FIG. 3), which in turn further comprises digital comparator 312, rate controller 316, and programmable divider 318 (see again FIG. 3). The synchronization means disclosed by the present application further comprises a

phase lock loop (phase detector 304, LPF 306, and VCO 308) configured to generate a video clock signal from a master pulse stream and a slave pulse stream.

Simmonds discloses a sync card which comprises a reference clock oscillator, a MUX for selecting between a local signal from the reference clock oscillator and an external signal, and possibly a phase lock loop configured to enable the sync card to determine if it is a master device or slave device (but *not* to generate a video clock signal, as with the present invention). Simmonds discloses a PC graphics subsystem which comprises a graphics processor, memory, and a video connector (see Simmonds, col. 6, lines 21-34, and FIG. 2 of Simmonds).

Applicants submit that Simmonds does not disclose, teach, or suggest the structural or functional elements, or the equivalents thereof, corresponding to the "structure, material, or acts described in the specification" (as per 35 U.S.C. 112, sixth paragraph) of the synchronization means of the present invention. Therefore, the "... means for synchronizing said first and second image data..." taught by the present application, and recited in claim 1, is not disclosed, taught, or suggested by Simmonds.

Therefore Simmonds does not disclose, teach, or suggest each and every element of independent claim 1. Moreover, the missing elements are not supplied by Takami.

2. *Comparison Means Determining Lack of Synchronization* Is Not Disclosed By the Cited References

Further regarding claim 1 of the present application as previously submitted (i.e., not as currently amended), the claim recited in part:

> "... wherein if the video clock signal is no longer synchronized with the master sync signal, the signal generating means reestablishes the synchronization between the video clock signal and the master sync signal..."

The Examiner has alleged (page 4 of the Office Action) that Simmonds teaches:

> "... wherein if the video clock signal is no longer synchronized with the master sync signal, the signal generating means reestablishes the synchronization between the video clock signal and the master sync signal (regardless of the status of the synchronization of the video clock signal and the master sync signal, Simmonds' display system executes the synchronization process repeatedly and thus reestablishes the synchronization repeatedly)..."

Applicants respectfully traverse. Applicants submit that the language of claim 1 as previously submitted, and specifically the use of the term "... if ...", inherently refers to the teaching of the present application that resynchronization occurs *in response to the comparison means determining* that the "... video clock signal is no longer synchronized with the master sync signal..."; said *determination by the comparison means* further being a claim element which is not disclosed by Simmonds.

However, without prejudice to or disclaimer of the recited text of claim 1 as previously submitted, Applicants have amended claim 1 to recite in part:

> "... *a comparison means for determining if the video clock signal is no longer synchronized with the master sync signal*;
> wherein *in response to the comparison means determining* that the video clock signal is no longer synchronized with the master sync signal, the signal generating means reestablishes the synchronization between the video clock signal and the master sync signal..."

Support for this amendment may be found, *inter alia*, in paragraphs 0010, 0013, 0026, 0032, and 0033 of the application as originally filed, as well as in FIG. 3 and FIG. 4 of the application as originally filed. (Applicants note that a further amendment has been made to dependent claim 14, the latter amendment elaborating on the "comparison means".)

Simmonds does not disclose, teach, or suggest the above-indicated claim elements of amended claim 1, that is, "... a comparison means for determining if the

video clock signal is no longer synchronized with the master sync signal, wherein in response to the comparison means determining that ...", etc.

Therefore Simmonds does not disclose, teach, or suggest each and every element of independent claim 1. Moreover, the missing elements are not supplied by Takami.

3. Combination Under 35 U.S.C. § 103(a) Not Motivated and Not Properly Combinable

Assuming, *arguendo*, that the above-discussed claim elements were supplied by Simmonds, the Examiner has acknowledged (page 4 of the Office Action) that Simmonds does not teach the following italicized element:

> "... wherein the reestablishment of the synchronization between the video clock signal and the master sync signal occurs over a convergence time, wherein *the duration of the convergence time is programmable* ..."

... as recited in claim 1 of the present application. However, the Examiner has asserted that Takami supplies the missing claim element, namely a phase lock loop circuit "wherein the time period of the sampling or synchronization is variable". The Examiner has further stated that motivation to combine the two references (Simmonds and Takami) lies in the alleged fact that "... Takami's phase lock loop circuit, in order to optimize the timing of the sampling or synchronizing of the image signals ... provide[s] a stable display system..."

Applicants respectfully traverse. As noted above, and as noted in the previous reply to Office Action (submitted November 3, 2006), the phase lock loop (PLL) of Simmonds is used to select between "the internal reference clock oscillator" or "the external reference clock input". Put another way, the PLL of Simmonds selects between an external oscillator (as a slave device) and an internal oscillator (as a master device).

(See Simmonds col. 4, lines 13-28, and col. 8, lines 36-56). No other use of the PLL is disclosed, taught, or suggested in Simmonds. In particular, while Simmonds discloses the PLL as *selecting a source of a master sycn signal*, Simmonds provides no teaching or suggestion of the PLL functioning to *synchronize* a video clock signal to the master sync signal. Simmonds further does not have a teaching or suggestion to modify the operation of a PLL to control a rate at which a video clock signal synchronizes to a master sync signal.

For purposes of reply, Applicants will posit that Takami may disclose a system wherein a PLL is used to synchronize image signals. (Parenthetically, Applicants note that Takami *appears* to be directed to adjusting a signal which is used to *sample* a video signal, as opposed to adjusting an actual video signal itself. However, Applicants respectfully provide notice that they cannot construe the nature of the Takami disclosure with a desired degree of confidence or clarity.) Applicants will further posit—again for purposes of discussion and reply—that Takami may disclose a means to determine a period of time over which a first signal is synchronized with a second signal.

Referring again to Simmonds, Applicants point out that the PLL of Simmonds is not configured to synchronize a first signal with a second signal, but rather only to select between an external signal source and an internal signal source. As there is no disclosure, teaching, or suggestion in Simmonds that the PLL of Simmonds would be used to synchronize two signals, there would be no motivation to substitute for the PLL of Simmonds the posited PLL of Takami which may control a rate of synchronization. That is, the use or purpose of the PLL in Simmonds as compared with the alleged use or purpose of a PLL in Takami are too dissimilar to incite motivation to combine them.

Assuming *arguendo* that the PLL of Takami, with its alleged capability to control a rate of synchronization of two signals, could be substituted for the PLL of Simmonds, the combination could not be operative in the manner disclosed by the present invention. Since the PLL of Simmonds does not control a synchronization of two signals, but only controls a selection between two signal sources (external vs. internal), it is not clear how a PLL configured to control a rate of signal synchronization (the posited PLL of Takami) would affect or modify the circuit of Simmonds.

Using strictly the literal, functional *language* employed above to describe the operation of each PLL—and setting aside *practical*, structural questions of whether such circuits could even be combined operationally in a real electronic system—at most a combination of Simmonds with Takami might hypothetically yield a circuit which controls a rate at which a first signal source or a second signal source is selected, wherein the rate of selection is controllable. Applicants respectfully submit that this bears no meaningful analogy or comparison to the present invention, wherein "... the reestablishment of the synchronization between the video clock signal and the master sync signal occurs over a convergence time, wherein the duration of the convergence time is programmable...".

Assuming *arguendo* that there *is* sufficient motivation to combine Simmonds and Takami, and further assuming *arguendo* that the combination was operationally meaningful, these two references are still not properly combinable without impermissible hindsight. The Examiner appears to have selected, based on hindsight gleaned from Applicants' disclosure and claimed structure, disparate portions of Simmonds and Takami to reject Applicants' claimed invention. The main purposes and structures

disclosed in Simmonds, and the alleged purposes and structures disclosed in Takami, are too dissimilar to fathom a combination of the two without having knowledge of Applicants' disclosed invention.

Therefore, Applicants respectfully assert that claim 1 is not obvious as a result of Simmonds in view of Takami, because there is no motivation to combine their teachings; further because such a combination, even if possible, would not yield the claimed elements of the present invention; and further because the combination requires impermissible hindsight.

Summary of Response to Rejections Under 35 U.S.C. § 103(a)

All of the stated grounds of rejection for independent claim 1 under 35 U.S.C. § 103(a) have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw the rejection of claim 1.

Claims 14 and 19-26 depend from independent claim 1, and therefore are patentable over Simmonds in view of Takami for at least the same reasons as independent claim 1 and further in view of their own respective features. Applicants therefore respectfully request that the Examiner reconsider and withdraw the rejections of claim claims 14 and 19-26.

Objections to Claims 15-18

The Examiner has stated that claims 15-18 are objected to as being dependent upon a rejected base claim (e.g., claim 15 depends on claim 14, which in turn depends on

claim 1), but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicants acknowledge and appreciate that claims 15-18 have been deemed allowable provided claim 15 (the base claim for claims 16-18) were rewritten in independent form which included all the limitations of claims 1 and 14. However, Applicants respectfully traverse the objection to claim 15, and claims 16-18 dependent thereon, in their present form.

As discussed above, claim 1 and claim 14 are both patentable over Simmonds in view of Takami. Therefore claims 15-18 which depend from claim 1 by way of claim 14 are also patentable over Simmonds in view of Takami for at least the same reasons as claim 1 and claim 14, and further in view of their own respective features. Applicants therefore respectfully request that the Examiner reconsider and withdraw the objections to claims 15-18.

Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn, and further that claims 1 and 14-26 be moved to allowance.

Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will

expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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